Don't Be A Drone: Tips for Reporting on AI and Automation in Essential Work Sectors

Executive Summary

In 2011, David Lightfritz was killed at a recycling facility in Ohio as he was attempting to unjam a machine that sorted glass from paper and plastics [1]. His death was not an isolated incident, but one of many accidents and injuries that occur in what is one of the most hazardous jobs in the United States: recycling sorting [2]. Recycling sorters are tasked with separating the basic types of refuse citizens produce in their everyday lives; objects such as water bottles, take-out, cartons, and newspapers. But, they also come face to face with the worst of the country's waste.

Needles, rotting food, broken glass and even dead bodies have appeared on conveyor belts in recycling facilities. New technologies, like robotic arms that sort waste at 80 picks per minute are meant to alleviate these difficulties, all while speeding up operations and saving money for the companies that own Material Recovery Facilities (MRFs). However, as evidenced by Lightfritz' death, these machines are not without their faults, as they can exacerbate the existing risks of the job.

> Despite these and other concerns, media coverage on the installation of new AI and automated machinery in the recycling field tends to exclude the experiences of workers and instead elevates the benefits of these technologies, as perceived by recycling executives.

What is our team doing?

Over the course of the past year, our team has conducted a multi-tiered research project exploring the relationship between recycling sorting workers and automated technologies. This research has involved multiple site visits to a Material Recovery Facility, interviews with recycling executives and employees, and media and visual analyses.

It was during our deep dive into media portrayals of technology in the recycling industry that we grew concerned over the invisibility of employees in these depictions, and the nearly uncritical perspective of automation within news publications. Multiple studies have demonstrated how US media reporting has shaped the public's understanding of technological labor, thus aiding in the construction of cultural environments that impact the practices of technological work [3] [4].

Specifically, news coverage has helped develop periods of AI expansion as the media builds a hype around the capacities of AI technology [5].

Due to their unique position in shaping these public discourses, it is vital that news publications begin to address these limitations in coverage. Thus, in this executive summary, **we are providing journalists and anyone else invested in the rights and issues of workers with three frameworks through which to develop and diversify the coverage of AI and automation and its impacts on workers.**

> Though our research is primarily focused on the field of recycling sorting, we believe these recommendations can benefit reporting on innovation and technologies in essential work sectors.

On Sourcing: Who to Talk to

Don't let executives be the only voice in your story.

WHY?

In our media analysis, we looked at 48 articles spanning across five years. These articles were published in both national newspapers (such as *The New York Times* and *USA Today*) and local publications such as the *Colorado Daily* and the *Deseret News*.

Not a single article in our data set quoted a recycling sorter. Instead, the articles covered the perspectives of operations managers in recycling facilities, CEOs of robotics companies, economists, and government officials, among other individuals -- all people with power and vested interests in seeing the successful implementation of AI and automation. The closest an article got to including the perspective of a worker is when custodians were labeled as "fans" of a new robotic sorting trash can. However, this statement was actually stated by the vice president of the robotics company speaking on behalf of the workers, which brings forward doubts about the veracity of this sentiment.

If executives end up as the only stakeholder in any coverage of technology and essential work industries, then the narrative will tend to reflect the agenda they are attempting to push forward. Therefore, by adding the voices of workers and lower-level employees, one can bring in the additional perspective needed to complicate the uncritical narratives that executives push forward.

> Workers have a unique voice as they have firsthand experience working with the new technology and can personally speak aout how the reality of these innovations lives up to, or fails to live up to, the promises of AI.

They can speak about potential on-the-ground operation issues, additional physical dangers, and the potential impact it has on employment. Adding these concerns by diversifying the types of sources used in articles makes the storytelling multifaceted and allows journalists to live up to the central tenet of neutrality.

HOW?

Reporting On-site: things to look out for and ask

- Workers repairing machines
  - How often do they have to fix the machinery?
  - Was their position an already existing role or were they hired in direct response to the implementation of this machinery? What additional training or payment did they receive for completing these tasks?
- Workers who perform their duties in near proximity to machinery
  - What safety measures were implemented to ensure they were not at risk of harm or danger due to the machinery?
  - Are they responsible for the successful use of machinery? What additional responsibilities do they have in ensuring the machinery is working effectively?

Reporting Off-site: what to do without direct contact

- If executives are already being interviewed, ask them for the contact information of individual workers or a union spokesperson. If this is not possible, ask why: if they are simply unwilling to do so, it might be important information to include in the story and if they are unable to do so for privacy/legal reasons, it is important to ask questions in the interview that directly speaks to the workers' experience.
  - What training are employees receiving for working with the new machinery?
  - What safety measures are being put in place to ensure the protection of workers with the added dangers of new machinery?
  - If machinery is already in place and being used: What do workers have to say about the new machinery? What concerns have they expressed?

If you can't talk to workers directly, talk to academics and scholars who have done field research. They can bring in a new perspective that's based on the experience of workers and they might also have contacts to share.

Alternatives when there's no time

We understand that sometimes journalists are working on a short deadline and thus need a quick turnaround with articles. Sometimes it is just not possible to take the time needed for these additional steps. If so, transparency is important in these situations. Add a note or disclaimer within the article or at the end clarifying the reporting process and how workers were unable to be reached for comment. This at least makes their presence visible and allows your readers to understand that workers are a voice that is important to the conversation.

On Framing: What Questions to Ask

Don't recite promotional content from companies.

WHY?

When executives are the only voices utilized in articles, coverage tends to echo popular talking points from corporate press releases. These narratives often frame AI and automation in one of three ways: as problem solvers, as saviors, and as superhuman. Ultimately what these narratives do is uncritically laud the accomplishments of AI and automation without covering their limitations and setbacks. **When writing about new technology, watch out for these common tropes:**

Automated Technologies as Problem Solvers

When discussing the day-to-day challenges of the industry, recycling executives tend to identify two threats to profits: contamination and labor. The main goal of MRFs is to produce as many bales of materials as possible, with few miscategorized or soiled products. Executives position new AI and automated machinery as solving this issue of contamination, since machines with high-tech object recognition abilities have the potential to increase accuracy on the sorting line.

Automated Technologies as Saviors

Beyond the routine challenges that characterize the recycling industry, robots are also depicted as saving the MRF from occasional moments of crisis. In these articles automation is perceived through the context of a critical event that exacerbates an industry issue and therefore jeopardizes the business of recycling. Through these periods of crisis, the benefits of automation exceed their typical role and therefore cast AI as a technology that can save the MRF's profits when the industry is threatened.

Although hiring additional workers could also be a manner of reducing contamination, executives quoted in the articles instead label both the presence and absence of workers as another significant 'problem' within the recycling industry. Their presence is an issue in that it signifies high labor costs which could be cut by using machines that are more cost-effective in the long-term. Simultaneously, the absence of workers is also an issue as the nature of the work leads to high turnover rates and labor shortages thus showing workers as an unreliable resource in MRFs. Within this framework, AI and automated technologies can thus reduce contamination and "solve" the "problem" of labor.

> "The problem, in large measure, surrounds how Americans recycle … Recycling firms have hired more workers to reduce the contamination rate by separating materials. Some save on labor by investing millions in recycling 'robots,' giant machines that can carefully separate materials that came from single residential bins. [6]

> "There's a crisis and [automated sorting is] the kind of infrastructure needed to bring [shut down facilities] back. [7]

AI Technologies as Super Human

AI and automation were not only framed as an upgrade to recycling facilities but as an improvement of workers themselves. News reports constantly labeled robots as being faster, more accurate, and less costly than employees. Machines "don't make mistakes" like workers do and can "learn collectively" unlike workers, who must invest time and effort in the industry to improve their sorting skills. This was especially true in the wake of the Covid-19 pandemic. Here, the biggest improvement of machinery is their lack of human limits. Machines are not held back by exhaustion, sickness, or disinterest in the way that human workers are. The "dirty, dangerous and dull" nature of recycling sorting means that the industry is constantly plagued by labor shortages and high employee turnover. From the perspective of MRF administrators quoted throughout the data set, automated technology is desirable because it's free of workers limitations.

> "[The robots] can't get the virus. [8]

HOW?

As you are completing your article or coverage, think through the narrative put forward about automation and about workers. Does the story fall into one of the three characterizations? If so, is this a fair characterization? How can you complicate or question this narrative?

One way of working against these narratives is thinking through a longer timeline beyond the moment the technology is introduced. As you are researching and interviewing, ask questions about processes that occur after invention and installation:

Introducing

- What new challenges emerged at the site when the technology was introduced?
- Do machines need to be calibrated or trained, and who does this work?

Operating

- What happens when a machine malfunctions while performing its duties?
- Does anyone observe the machine?

Maintaining

- Do machines need to be updated
- What happens when machines break?

On Visuals

Don't leave workers out of the picture.

WHY?

From the 48 articles in our media analysis, we pulled over 80 images to conduct an analysis of how publications visually portray these narratives of workers and AI and automation. Altogether, these images support the textual narratives of the supremacy and necessity of robotics in order to handle the problems within the industry - the large streams of materials, costs of running MRFs, and inefficiencies of workers. There were **three broad trends which were present in the visual analysis:**

Robots in Profile

Focusing attention on the technology itself, AI-powered sorting machines were photographed standing alone as the central focus of the picture. This conflicts with traditional photojournalist practices, which dictate that human subjects make the picture more visually engaging and act as a stand-in character for the reader's investment. Therefore, shooting the new machinery independently is a deliberate choice which conveys to the reader that these robots are the main character. Here, a robot is what (or who) the reader should be invested in, as it is the one doing the action. This depiction also helps reinforce the idea that these machines are autonomous and do not rely or interact with human workers, thus rendering their work invisible.

[9]

Executive Voices

Mirroring the patterns in our textual analysis, executives were common subjects for the photographs that accompanied articles about AI and automation in the workplace. Our data set of photographs contained various profile shots of CEOs, directors and managers -- sharply dressed and with their facility or robots in the shot as a prop to their character. The composition of the shot and the styling of the executives demonstrates that, though they remain separate from the dirty work of recycling, they are still authority figures in the operations and thus important to the story.

[10]

Workers in Action

In contrast to the textual analysis, workers were not completely absent from the visual portrayals of AI and automation in the MRFs. However, the workers were rarely pictured alongside the new machinery. Instead, photographs of workers tended to show them as they were hand-sorting - the "before" picture so to speak of the transformation as new machinery was added to recycling operations. In these pictures, one to three workers hand-sorted large piles of recycled material, with the framing of the shots emphasizing the overwhelming amount of work they had to do.

[11]

There needs to be a shift in the visual portrayals of these dynamics between robotics, workers, and executives in order to ensure that images more accurately represent the realities of AI and automation in the recycling workplace. They highlight the presence of executives while erasing the valuable work of employees in ensuring that the new machinery is functioning.

HOW?

- Photograph worker-machine interaction.
    - Placement - are new machines being positioned besides other workers' stations? Are they being overseen by someone?
    - Maintenance - what happens when a machine malfunctions? Are there periodic check-ins?
- If one doesn't have the time or permission to photograph these machines in person, then use promotional images with caution. Either add a disclaimer that these are promotional images and do not portray the realities of implementation, or layer on a graphic with customers/workers present.

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1. Brian Joseph. April 17, 2016. Deadly work for $55 a day: The hidden horrors of the recycling industry. *Salon.*
2. Michelle Chen. June 24, 2015. Someone has to sort your recycling and it's a disgusting and dangerous job. *The Nation.*
3. Gina Neff. 2012. *Venture labor: Work and the burden of risk in innovative industries*. MIT Press, Cambridge, MA.
4. Brooke Duffy and Elizabeth Wissinger. 2017. Mythologies of creative work in the social media age: Fun, free and 'just being me.' *International Journal of Communication*.
5. Luciano Floridi. 2020. AI and its new winter: From myths to realities. *Philosophy & Technology.*
6. Chris Woodyard. November 23, 2018. Will those holiday gift boxes actually get recycled? Um, maybe. *USA Today.*
7. Alexis Acquisto. September 19, 2018. Officials still don't know when Fiberight will start processing waste. *Bangor Daily News.*
8. Michael Corkery and David Gelles. April 10, 2020. Robots welcome to take over, as pandemic accelerates automation. *The New York Times.*
9. Benjamin Rasmussen for *The New York Times*. In Michael Corkery and David Gelles. April 10, 2020. Robots welcome to take over, as pandemic accelerates automation. *The New York Times.*
10. Jonas Opperskalski for *The Washington Post*. In Jim Morrison and Shoshana Kordova. November 18, 2019. Revolutionary recycling? A new technology turns everyday trash into plastic treasure. *The Washington Post.*
11. Laura Seitz for the *Deseret News*. In Art Raymond. October 31, 2019. Limited recycling options ahead for some Salt Lake Valley cities. *Deseret News.*

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